

CLAIMS

We claim:

1. A process for the removal of specific compounds from an aqueous salt solution, comprising treating a compound-containing aqueous salt solution in a desalination membrane according to the dead-end principle to obtain a permeate and a concentrate, wherein no longitudinal flow with gas and/or liquid takes place over the membrane, reusing the obtained permeate, flushing the membrane, and discharging the concentrate obtained.
2. The process according to claim 1, wherein the gas is air and the liquid is water.
3. The process according to claim 1, wherein the desalination membrane is selected from the group consisting of nanofiltration membranes and reverse osmosis membranes.
4. The process according to claim 1, wherein the membrane structure is selected from the group consisting of tubular, capillary, hollow fiber, and helically wound.
5. The process according to claim 1, wherein the compound-containing aqueous salt solution is introduced at a feed side of the membrane module at a flux of 5-75 l/m²·hr, a feed pressure of 4-12 bars for 30-40 minutes, while the obtained permeate depleted of compound is discharged.
6. The process according to claim 6, wherein the flux is 15-25 l/m²·hr and the feed pressure is approximately 8 bars in a dead-end filtration cycle of approximately 30 minutes.
7. The process according to claim 1, wherein prior to the treating step the aqueous salt solution contains approximately 2000 mg/l TOC, approximately 105 g/l Na⁺ and approximately 60 g/l Cl⁻, while after the treating step the obtained permeate contains approximately 40 mg/l TOC, approximately 105 g/l Na⁺ and approximately 60 g/l Cl⁻.
8. The process according to claim 1, wherein the salt solution is a regenerate derived from water purification.
9. The process according to claim 1, wherein the specific compounds are selected from the group consisting of organic compounds (TOC) and pesticides.
10. The process according to claim 9, wherein the TOC comprises humic acid.